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monkeys than human beings. The grave was of four stones laid flat, under which there were no bones, but only black earth. All the human remains met with were two teeth. In digging round the grave, they found pottery such as that on the table exhibited by Mr. Bollaert. He had seen graves with pillars at Bugaba, something like those in Ireland; but these mounds seem to be formed of decomposed vegetation. On one occasion, being twelve miles from Chiriquí in a canoe, happening to mention he had with him bones from some of these graves during a storm, immediately he was regarded as the jumbo, and had only the choice of throwing these relics overboard, or of going over himself. In Chiriquí hundreds of celts of various forms might be had for merely the trouble of collecting them.

XIII.—*Note on Stone Celts, from Chiriquí.* By CHARLES CARTER BLAKE.

FIVE stone "celts" have been submitted to me from the collections of antiquarian objects from the Chiriquí, formed by my friends, William Bollaert, Esq., F.R.G.S., Corresponding Member University of Chile, &c., and William Duprée, M.D., F.R.G.S., of Panamá.

No information has been given to me respecting the locality, condition, or probable age of these "celts." I understand, however, that they were obtained from the same graves in Chiriquí whence have been derived the various objects wrought in gold, and moulded in pottery, some of which have lately been described in the United States, and in this country by Mr. Bollaert.

All the "celts" exhibit the well-known scalpriform sharpening of the larger end, and are sharpened laterally by a succession of blows, producing lateral facets, analogous to those of the cut flints which have been found at Abbeville,* at the Kjökkenmöddings in Denmark,† and in various European localities, and which probably belong to a period antecedent to the known historical epoch.

Four of the celts, marked B 2, B 3, D 1, and D 2, are composed of the porphyritic stone, found in great abundance on the Isthmus of Darien. One only, marked B 1, is hewn more roughly than the others, from an indurated clay, and closely resembles some of the European carved flints.

B 1 (measuring four inches and four-tenths) is of a tapering acuminate form, the lateral facets being so deep, and so widely extending across the "celt," as to have produced a more or less salient ridge, extending longitudinally along the median line of the

* Prestwich, *Philos. Transact.* 1860. Evans, *Archæologia*, 1860, 1862.

† Lubbock, in *Natural History Review*, October 1861.

celt. The larger end is polished on either side for a small extent up the hatchet. The stone, however, from its porous nature, has not been susceptible of much polish. The smaller end is prolonged to an acute point.

D 2 (measuring three inches and three-tenths). The sculptor's art has in this celt progressed to such an extent, as to produce a polished surface, obliterating the facets, and extending over the whole stone, with the exception of the acuminate but unsharpened smaller extremity.

In the three following "celts" the longitudinal diameter is much less than in the two above mentioned.

B 3 (measuring four inches). The surface of this stone has been polished to a greater extent than in D 2. The smaller end is not only polished, but has its tapering extremity rounded off. Subsequently to the polishing process, the lateral portions have been submitted to the action of some substance which has rubbed and ground off the polished surface, apparently with the view of rendering the sides more acute.

D 1 (measuring three inches and four-tenths). A similar process has been exercised on this specimen, on the lateral portions: whilst along the median line the ridge which was so prominent a feature in B 1, has been artificially obliterated. The polished portion extends a small distance up the blade. The acuminate point has been broken away, exhibiting a hexagonal fracture.

B 2 (measuring three inches and two-tenths). This "celt," of a lighter porphyry than the others, presents the facet-shaped arrangement of the lateral portions, which is exhibited to a greater extent in B 1. It is polished at the sharp extremity. The acuminate end is obtusely rounded; near it a deeper facet than the rest is removed, with the probable purpose of rendering more firm its attachment by some ligature to its handle. No such device is found in the four other "celts."*

The above "celts," therefore, offer each distinctive characters, and probably indicate different fashions and patterns of the sculptors', or rather, cutlers' art in Chiriquí. The specimen B 1, by its

* Boucher de Perthes (*Antiquités Celtiques et Antédiluviennes*, 8vo, ii, 232) describes a series of analogous half-polished hatchets as appertaining to the "transition" period between the pre-historical and the Celtic nations. He describes one of these "celts" as "une hache à gaine ou demi-polie. Le tranchant l'est entièrement. La partie destinée à entrer dans la gaine ne l'est pas."

In the British Museum collection of antiquities, an object termed by Mr. Bollaert a "stone club" is preserved from Cocina in Peru, near Noria. Mr. Gilbert Brandon has also presented a "stone hatchet-blade used in the time of the Incas", from Cuzco; whilst, amongst the Mexican antiquities presented by Lady Webster, is to be found a "cincel de los Indios, encontrado en una sepultura"; where is not stated.

rough facets, its slight degree of polish, its general flat appearance, and its comparative simplicity of workmanship, seems to indicate its being the product of a nation not much superior in civilisation to the denizens of the Kjökkenmöddings in Denmark. Reasonable ground of doubt may exist as to whether it belongs to the same era as the four porphyritic celts. The nation which produced such works of art, as some of the Chiriquí pottery and gold ornaments, would surely have arrived at a higher degree of perfection in its weapons. It is undoubtedly also a finished celt, complete, as far as its maker intended it to be, not a mere spoilt model thrown aside. The absence of proof respecting its actual collocation with the Chiriquí antiquities, would lead me to assign to it a far higher historical remoteness, and render it, probably, coeval with the remains of the old short-headed (brachycephalic) mound builders of Natchez, whose epoch in time, antiquarian archæology in North America has as yet been unable to ascertain.

The four porphyritic celts have no such distinctive characters. They might be the work of the earliest inhabitants of Chiriquí, or the product of the idle Indian of the present year. A careful examination of the various types of celts, as denoting distinctness of race, has led me to the conclusion that the Chiriquí celts are entirely *sui generis*. They differ from the more heavy cutlery of the mound-building Natchez, in their less weight, and their more acuminate form. The annexed sketch, from Squier's *Monuments of the Mississippi Valley*, indicates the shape of the celts of the short-headed mound builders. It was six inches by four, and weighed about two pounds. It is undoubtedly a finished celt.

Upon a comparison of the Chiriquí celts with the obsidian knives from Mexico, no resemblance exists. The closest analogy is with the hatchets from the shell mounds of Denmark. Dr. Troyon has observed, that "man placed under analogous circumstances acts in an analogous manner, irrespective of time or place." We thus have analogous flints from wholly distinct parts of the world. Whether these evidences indicate the once almost universal dispersion antecedent to the historical epochs of whole nations of men, little elevated above the animals, whose remains have been preserved to us in strata, often containing the *debris* of extinct mammalia, I must leave to this society to determine. The antiquity of the human race in America, inferred from the existence of so many native traditions of the *rappports* which early man once bore to the extinct animals, is thus rendered more probable by the antiquarian evidences now afforded us.

I cannot close this paper without expressing my sincere regret that no osseous or cranial remains of the aborigines of Chiriquí and Panamá have been afforded us. Such proofs can alone con-

clusively demonstrate the true affinities of nations, or the probable era when they existed. Mere archæological evidence is an uncertain guide.

In conclusion, I beg to remark that, at first sight, the mere degree of chipping which a flint might have undergone by human hands might seem a trivial subject of discourse, but when we reflect upon the aphorism of Sir Thomas Browne, that "Time conferreth a dignity upon the most trifling thing that resisteth his power," the study of these carved flints from Chiriquí becomes fraught with considerations of the highest mental value.

Mr. MACKIE said he did not understand Mr. Blake's paper as conveying the idea of there being any resemblance at all between the Chiriquí celts and the fossil flint implements of the Valley of the Somme, Hoxne, and other localities of the old gravel drift, but as pointing out one celt as distinguished from the others from Chiriquí in not being ground. And certainly the absence of grinding in a stone implement from any district was an apparent evidence either of an early and primitive age, or of the weapon belonging to the lower grades of the race with whose ground or polished tools it was found. As there was nothing to show that these Chiriquí celts came from the graves containing the gold ornaments, or that the unground one was associated in any way with the other ground celts, he thought it was open to Mr. Blake to suggest the possibility of that one being of older age than the others.

Mr. SOLLY inquired if any burnt bones had been met with in the Chiriquí graves?

Mr. POWER had seen no signs of burning. In one case he had seen a celt used by a native, who split a stick and inserted the pointed end to form a hatchet. In one of the graves at Bugabá iron is said to have been found. If so, it was either meteoric, or had belonged to the early Spaniards. He had never heard before of iron having been found anterior to Spaniards. There were specimens of copper frogs plated with gold. In 1853-3, the goldsmiths greatly prized the Panamá chains, and offered high premiums for Chiriquí gold.

Mr. BLAKE said that, although the traditionary evidence and the pictorial illustrations of the aborigines were generally uncertain guides; yet evidence had been "creeping in of late", indicating that the human race in America might have encountered more formidable animals than the armadillos and sloths which are at present found in the Isthmus of Panamá. Traditions exist over the South American continent of races of giants, which were subdued and exterminated by the early men. In every spot where this tradition existed, fossil bones of the gigantic *Mastodon* had been found; *e. g.* at Manta, Punta St. Elena, Tarija, and Suacha, the geological distribution being coextensive with the tradition. In Brazil, the Indians had tradition of a gigantic anthropoid ape, the cayporé, which represented the African gorilla. No such ape exists in the present day; but, in the postpliocene in Brazil, remains have been preserved of an extinct ape (*Protopithecus antiquus*) four feet high, which might possibly have lived down to the human period, and formed the subject of the tradition. At Timaná, in New Granada, sculptured stones have been figured by Mr. Bollaert, representing a feline animal, the proportions of whose teeth slightly exceeded those of existing cats, and might possibly indicate a modified descendant of the extinct *Machairodus neogæus* of Brazil. Should such conclusions be warranted by careful comparison, a purely rationalistic base might thus be

found for the mythi of the aboriginal Americans, and peradventure light be thrown on the relations of early man with the animals of America during the centuries which must have preceded the formation of the celts and pottery now before the Society.

Specimens of the Chiriquí celts were placed on the table, from the collections of Mr. Bollaert and Dr. Duprée, as well as the collection formed by Mr. J. W. Flower in the Somme valley, and some British specimens from Teddington Lock and Blackfriars Bridge, sent by Mr. Sass.

APRIL 1ST, 1862.

JOHN CRAWFURD, Esq., President, in the Chair.

The following new Fellows were announced:—Frederick Henry Scott, Esq.; Edward Warner, Esq

XIV.—*On the Antiquity of Man from the Evidence of Language.* By JOHN CRAWFURD, Esq., President.

THE periods usually assigned for man's first appearance on earth necessarily date only from the time when he had already attained such an amount of civilization as to enable him to frame some kind of record of his own career, and take no account of the many ages which must have transpired before he could have attained that power. Among the many facts which attest the high antiquity of man, the formation of language may be adduced; and, in the course of this short paper, I shall endeavour to bring forward a few of the most striking facts which it yields.

Language is not innate, but adventitious—a mere acquirement having its origin in the superiority of the human understanding, like any other acquisition derived from the same source. The evidence that such is the case is abundant. Infants are without language, and we see them slowly and gradually attaining it, in proportion as the brain acquires maturity. Children acquire with equal facility any language whatsoever; they can forget the first acquired language, and learn another.

Those born deaf are always dumb, and continue so for life; and this not from any defect in the organs of speech, but simply because the channel for the acquisition of language, the ear, is defective. They can no more learn to speak, than one born without legs could learn to walk. Without the sense of hearing, there would have been no language at all. In this case man would have no other advantage over the lower animals as to voice, save that of weeping and laughing, which he alone can do.

Among the unquestionable proofs that language is not innate, is the prodigious number of languages which exists—some with a